

AMENDMENTS

In the Claims:

Please amend Claims 1, 14 and 15 as follows (See also, *Attachment*):

Claim 1 (Amended) A method for the sterile joining of two or more pre-sterilized components comprising the steps of:

- B1
- a. sterilizing an end of each component to be joined together within an active sterile field;
 - b. preparing the end of each component to be joined while exposed to the active sterile field; and
 - c. moving the end of at least one of the components while exposed to the active sterile field to thereby join the prepared ends together while exposed to the active sterile field.
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Claim 14 (Amended) The method of claim 2, wherein the step of moving to thereby join comprises the steps of:

- B2
- a. inserting an opened end of one component into the opened end of another component to create overlapping sections; and
 - b. bonding the overlapping sections together.

Claim 15 (Amended) The method of claim 2, wherein the step of moving to thereby join comprises the steps of:

- a. abutting the opened end of one component with the opened end of another component; and
 - b. welding the abutting ends together.
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Please cancel Claims 18-33, without prejudice.

Please amend Claims 34, 46 and 47 as follows (See also, *Attachment*)

Claim 34 (Amended) A method for the sterile assembly of two or more pre-sterilized components together comprising the steps of:

- B3
- a. preparing at least one end of each component for assembly;
 - b. sterilizing the prepared ends of each component to be assembled together within an active sterile field;
 - c. moving at least one of the prepared ends into contact with the other while in the active sterile field; and
 - d. assembling the prepared ends together while in the active sterile field.
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Claim 46 (Amended) A system for effecting the sterile joining of at least two pre-sterilized components together comprising

- B4
- a. an active sterile field for encompassing at least one end of each component to be joined together;
 - b. a surface for supporting ends of the components within the active sterile field;
 - c. a mechanism which opens an end of at least one of the components while the end is supported by the surface in the active sterile field;
 - d. a mechanism which moves at least one of the component ends into aligned contact with the other while maintaining the at least one open component end in the active sterile field; and
 - e. a sealing device for bonding the aligned ends together.

B4 Claim 47 (Amended) The system of claim 46, wherein the mechanism which moves at least one of the component ends into aligned contact comprises at least one mechanical actuator.

Please add the following claims; ~~they~~ include no new material.

B5 57. A sterilization apparatus comprising,
an electron beam tube having a window permitting emergence of an electron beam from said tube into an ambient gaseous environment while preserving a vacuum environment in the tube, the electron beam having a trajectory within a plasma cloud defining a reactive volume stimulated by interaction of the electron beam with the ambient environment, with a beam energy less than 100kV at the target, and
a moveable member manipulating objects in a plurality of directions within the reactive volume wherein the manipulated objects are sterilized.

58. The apparatus of claim 57 wherein a plurality of beam tubes have electron beams forming a common reactive volume.

59. The apparatus of claim 58 where the beam tubes are sufficient in number and arrangement to avoid shadows on specific objects placed in the reactive volume.

60. The apparatus of claim 57 further defined by a housing containing the ambient environment.

61. The apparatus of claim 60 wherein the housing has ports for insertion of material to be sterilized.

- B5
62. A sterilization apparatus comprising,
a chamber with ports allowing insertion of objects to be sterilized and having a gaseous environment therein,
a plurality of vacuum tubes fixed relative to the chamber, each emitting an electron beam along a path into the chamber through a window separating the gaseous environment of the chamber from the vacuum of the tube, the beam paths from the tubes within a common plasma cloud stimulated the electron beams interacting with the gaseous environment within the chamber, defining a volume associated with the plasma cloud wherein the objects to be sterilized are exposed to the plasma cloud, and
at least one moveable member manipulating objects in a plurality of directions in the reactive volume wherein manipulated objects are sterilized.
63. The apparatus of claim 62 wherein the gaseous environment is an air environment.
64. The apparatus of claim 62 wherein the gaseous environment is at atmospheric pressure.
65. A sterilization apparatus comprising,
a single electron beam tube having a window permitting emergence of an electron beam from said tube into an ambient gaseous environment while preserving a vacuum environment in the tube, the electron beam having a trajectory within a plasma cloud defining a reactive volume stimulated by interaction of the electron beam with the ambient environment, with a beam energy less than 100kV at the target, and
an automated moveable member for manipulating objects, including objects that differ in variety, size and shape from the objects to which they are joined, in a plurality of directions within the reactive volume wherein the manipulated objects are sterilized by said single electron beam tube.
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